

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.

**IN THE CLAIMS:**

1. Cancel Claim 1 without prejudice.
2. (Currently Amended) The laser system of Claim ~~1~~ 22 wherein the guard band laser is an annular laser.
3. (Currently Amended) The laser system of Claim ~~1~~ 22 wherein the guard band laser is a set of lasers arranged concentric to the laser.
4. Cancel Claim 4 without prejudice
5. Cancel Claim 5 without prejudice.
6. Cancel 6 without prejudice.
7. (Currently Amended) The laser system of Claim ~~4~~ 23 further comprising:  
a buffer circuit coupled to the laser for storing an input signal to the laser prior to shutdown.
8. (Currently Amended) The laser system of Claim ~~4~~ 23 wherein the guard beam is coaxially aligned with the laser beam.

9. (Currently Amended) The laser system of Claim 4 23 wherein the guard beam is aligned and cone shaped with respect to the laser beam.

10. (Currently Amended) The laser system of Claim 4 23 wherein the laser is a continuous wave laser.

11. (Currently Amended) The laser system of Claim 4 23 wherein the guard laser is a pulsed laser.

D 12. (Currently Amended) A laser system having improved signal continuity and safety, comprising:

(a) a continuous wave laser including an energy source and optical surface in a chamber coupled to an energy pump and providing a laser beam;

(b) a pulsed guard laser concentric with the laser including an energy source and an optical surface in a chamber coupled to an energy pump and providing a coaxially aligned guard beam surrounding the laser beam as a protective layer;

(c) a receiver comprising a central lens for receiving the laser beam and coupled to a main receiver;

(d) an annular, segmented set of mirrors and lenses surrounding the central lens as a set of parallel receivers for receiving the guard laser beam;

(e) a trigger circuit connected to the set of parallel receivers for generating a trigger signal upon interruption of the guard beam;

(f) a return laser circuit means responsive to the trigger circuit ~~for altering the performance of laser beam upon interruption of the guard beam~~ **and generating a return signal;**

(g) **switching means responsive to the input signal or the return signal;**

~~(g)(h)~~ a buffer circuit coupled to the ~~return laser circuit~~ **switching** means for storing an the input signal to the laser, ~~prior to shutdown~~ **while the return signal is present;**

~~(h)(i)~~ means for discharging the buffer circuit to the laser upon termination of the trigger **return** signal; and

**(i)(i)** means for sensing climatic conditions of dust, rain and other environmental elements affecting the guard beam and preventing shutdown of the laser **in response to such climatic conditions.**

13. (Currently Amended) In a laser system including a main laser optically coupled to a main lens receiver, a guard laser optically coupled to a segmented set of lenses surrounding the main lens and serving as parallel receivers for the guard laser, a method of providing improved signal continuity and safety for the main laser, comprising the steps of:

(a) transmitting a laser beam from the main laser to the main lens **in response to an input signal;**

(b) transmitting and coaxially aligning a guard **laser** beam with the main laser beam as a protective layer surrounding the main laser beam **and preserving the signal continuity of the input signal;**

(c) receiving the main laser beam in the main lens;

(d) receiving the guard beam in the segmented set of parallel receivers;

(e) detecting an interruption in the protective layer by the set of parallel receivers;

(f) generating a return signal in response to the interruption of the protective layer;

(g) directing the input signal to a storage means while the return signal is present;

(g) (h) altering the performance of the main laser beam in response to the generated return signal by increasing the laser energy level or decreasing the laser energy level including termination.

14. (Currently Amended) The method of Claim 13 further comprising the step of:

D (h) generating signals indicative of climatic conditions of dust, rain and other environmental elements affecting the ~~low-power~~ guard laser beam; and

(i) preventing the termination of the main laser beam in response to such climatic conditions.

15. (Original Claim) The method of Claim 13 further comprising the step of:

(j) coupling a return laser to the generated signal for altering the performance including shutdown of the main laser in response to the generated signal.

16. (Currently Amended) The method of claim 13 further comprising the step of:

(j) coupling a return laser to the generated signal for altering the performance including shutdown of the main laser in response to the generated return signal.

17. (Currently Amended) The method of Claim 16 further comprising the step of:

(l) restoring the stored signal and the input signal to the main laser upon termination of the generated return signal.

18. (Currently Amended) The method of Claim 13 further comprising the step of:

(m) coupling a trigger circuit to the set of parallel receivers for producing the generated return signal when the protective layer is interrupted.

19. (Original Claim) The method of Claim 13 wherein the main laser transmits a continuous wave beam.

20. (Original Claim) The method of Claim 13 wherein the guard beam laser transmits a low power pulsed beam.

21. (Currently Amended) A The method of Claim 13 further utilizing a laser apparatus for performing surgery comprising the steps of:

(n) disposing a template including an opening about an area on a patient in which surgery is to be performed in the opening;

(o) directing the laser beam into the area opening to perform surgery;

(p) terminating the laser beam when the template is contacted by the laser beam; and

(q) restoring the laser beam when the laser beam is re-directed into the area opening.

Please add the following New Claims:

22. (New Claim) A laser system comprising:

- (a) a laser responsive to an input signal and generating a main beam;
- (b) a guard band laser arranged concentric to the main beam and generating a guard band beam to preserve input signal continuity in the main beam;
- (c) a guard band receiver spaced from the laser for receiving the guard band beam;
- (d) a trigger circuit coupled to the guard band receiver, the trigger circuit generating a return signal upon interruption of the guard band beam as detected by the guard band receiver;
- (e) means responsive to the return signal for altering the performance of the main beam by increasing the laser energy level or decreasing the laser energy level including termination; and
- (f) sensor means for detecting climatic conditions of dust, rain and other environmental elements affecting the guard band and preventing shutdown of the laser.

23. (New Claim) A laser system having improved signal continuity and safety, comprising:

- (a) a laser including an energy source and optical surface in a chamber coupled to an energy pump and providing a laser beam responsive to an input signal;
- (b) a guard laser concentric with the laser including an energy source and an optical surface in a chamber coupled to an energy pump and providing a guard beam surrounding the laser beam as a protective layer for preserving input signal continuity of the laser beam ;
- (c) a receiver spaced from the laser comprising a central lens for receiving the laser beam and coupled to the laser;

(d) an annular, segmented set of mirrors and lenses surrounding the central lens as a set of parallel receivers for receiving the guard laser beam;

(e) a trigger circuit connected to the set of parallel receivers for generating a signal upon interruption of the guard beam;

D1 (f) a return signal laser responding to guard band interruptions as sensed by the parallel receivers which activate the trigger circuit in generating a trigger signal to the return signal laser to shut down or modify the signal level of the laser beam by increasing or decreasing the energy level of the laser; and

~ (g) sensor means for detecting climatic conditions of dust, rain and other environmental elements affecting the guard band, but not the signal continuity of the laser, and preventing shutdown of the laser in response to such climatic conditions.

---